

PREFILED TESTIMONY

Of

**PAMELA M. MARCHAND, P.E.
CHIEF ENGINEER**

For

PAWTUCKET WATER SUPPLY BOARD

Before

RHODE ISLAND DIVISION OF PUBLIC UTILITIES AND CARRIERS

Docket NO.

January 2003

1 **Q. Please provide your full name, title and business address for the record.**

2 A. Pamela M. Marchand, P.E.
3 Chief Engineer
4 Pawtucket Water Supply Board
5 85 Branch Street
6 Pawtucket, RI 02860

7
8 **Q. How long have you held this position?**

9 A. I was hired on June 24, 1999

10
11 **Q. What are your responsibilities at the PWSB?**

12 A. General Manager of the Pawtucket Water Supply Board water supply, treatment, and
13 distribution systems.

14
15 **Q. Can you provide a brief description of your previous work experience?**

16 A. From 1987 to 1999 I worked for the Onondaga County Water Authority in Syracuse,
17 NY, as Operations Manager and then Executive Engineer. I was responsible for the
18 operations, management, and engineering of a 45 MGD system that included 1300 miles
19 of water main, 50 water storage tanks, 22 pump stations, and 20 control valves, and a 25
20 MGD filtration plant and watershed, and a purchased water supply.

21
22 **Q. What is your educational background?**

23 A. I have a B.S. and M.S. in Environmental Engineering, and an M.S. Certificate in
24 Public Administration from Syracuse University, and an AAS in Chemical Technology
25 from Onondaga County Community College. I am a licensed Professional Engineer in
26 Rhode Island and New York State.

27
28 **Q. What is the purpose of your testimony?**

29 A. To support The Pawtucket Water Supply Board's request for a rate increase to cover
30 expenses due to the delay in the construction of the new treatment facilities, unanticipated
31 expenses, and operations and maintenance expense. As the Commission knows, the

1 PWSB had previously planned to file a full rate filing at this time seeking rates for the
2 bonding of the treatment facilities, as outlined in Docket #3378. However, even though
3 the treatment plant construction has been delayed, the PWSB found it necessary to seek
4 funding for the unanticipated additional expenses, and O&M expenses outlined in this
5 filing. Furthermore, in order to ensure the ability of the PWSB to supply potable water
6 that meets regulatory requirements we are in need of funds to keep the present treatment
7 plant in operation until the issues regarding the new treatment plant are resolved.

8
9 **Q. What is the amount of the proposed increase?**

10 The PWSB is requesting a 28% overall increase in rates as a full rate filing.

11
12 **Q. What does that request consist of?**

13 Basically, the increase consists of three different components:

14 1. The PWSB is requesting a 8.6% ??? increase in rates to fund unanticipated increases in
15 taxes, medical insurance, property insurance and labor contract increases.

16
17 2. Additionally, 15.7% of the rate increase is attributable to delays associated with
18 building the new treatment plant. As the Commission knows, the plant was previously
19 scheduled to be retired by mid-2004. However, the Pawtucket City Council recently
20 voted against approving the vendor selected by the PWSB and the City of Pawtucket
21 Purchasing Board. Therefore the, PWSB is requesting funds to replace the granular
22 activated carbon media, perform additional repairs and replace deteriorated equipment at
23 the water treatment plant and pump stations to ensure operation beyond 2004.

24
25 3. The PWSB is also requesting rates for a 7.0 %??? increase in Operations and
26 Maintenance expenses. This includes restricted O&M Reserve funds for bonding,
27 operations reserve, chemical cost increases, and operations expenses that were held down
28 in the test year due to revenue constraints.

29
30 The increases as outlined above total a 31.3% increase. However, there are two
31 components included in current rates that can be phased out in this filing. The PWSB's

1 Water Resource Board payment, in the amount of \$191,184, will be completed in
2 FY2003. Additionally, the Central Falls Franchise Fee payments will be completed in
3 FY04. We are presently collecting \$315,371.00 annually in rates for the Central Falls
4 Franchise fees. Since we still owe Central Falls for franchise fee, we will have to keep
5 collecting in the rate year to pay the balance. But we will not have to collect the full
6 amount currently authorized. So, we can reduce the amount needed by approximately
7 \$184,540.00 in the rate year (unless this portion of rates is applied to a purchase of the
8 Central Falls system – see my testimony regarding this subject herin below).

9 Eliminating these two components from the current rates reduces the required increase
10 by 3.3%. Thus, the overall percentage increase requested in this filing could be reduced to
11 28%

12
13 **Q. What has the Board done with the increase granted in Docket #3378?**

14 A. A restricted fund for an operations and maintenance account, required for bonding for
15 the distribution system and the treatment facilities, was set up beginning with the July,
16 2002, collections. The balance as of January, 2003, was \$276,478.

17
18 The restricted account for IFR collections was increased to the amount granted. A
19 contract in the amount of \$712,854 for main replacement was issued in September, 2002.
20 The balance in the account as of November, 2002, was \$1,336,494.

21
22 The PUC authorized \$100,000 in rates for the expenses associated with the Clean Water
23 Financing agency to service bonds for the defeasement of existing PBA bonds and
24 distribution system renovation projects. The PWSB began collecting these funds in July,
25 2002, and have been placed in the restricted debt service account. This account has a
26 negative balance of \$213,954 as of January, 2003, due to the timing of bond payments,
27 also included in the restricted account.

28
29 The PWSB has paid \$390,409.94 to Central Falls as of December, 2002, toward the
30 \$623,021.92 owed for previous franchise fees.

1 **Q. What is the status of the new treatment plant?**

2 As the Commission knows, a dispute arose during the process of choosing a vendor for
3 the new plant. The dispute arose over the issue of who could choose the new treatment
4 plant vendor – the City of Pawtucket’s Executive or Legislative Branch. This issue was
5 litigated in Providence County Superior Court. Judge Darigan ruled that the Executive
6 Branch (through the PWSB and the City Purchasing Board) had the power to choose the
7 vendor.

8
9 However, on November 20, 2002, the City Council of Pawtucket voted to not ratify the
10 selection of Earth Tech as the recommended vendor of the new treatment facilities.

11 EarthTech was recommended by the Pawtucket Water Supply Board, the City Purchasing
12 Board and the Mayor of Pawtucket, after an extensive review and evaluation process
13 performed by an expert panel of engineers, financial analyst, attorneys, and staff provided
14 by the PWSB. According the PWSB attorney, Joseph Keough, Jr., and the attorney for
15 the City Administration, Lauren Jones, the PWSB cannot legally accept any other
16 proposal.

17
18 With the current selection process seemingly at an end, it was proposed that a new RFP
19 be issued to start the process again. The costs for preparing, issuing and evaluating a new
20 RFP were estimated at approximately \$1.23 million dollars. It was anticipated that we
21 would seek these funds for a new RFP in this rate filing. However, on January 14, 2003,
22 the PWSB voted against issuing a new RFP for construction of the new treatment plant.
23 Therefore, the request for \$1.23 million in funds for a new treatment plant RFP are not
24 included in this rate filing.

25
26 As a result of the factors cited above, the procurement process for the construction of a
27 new treatment plant is currently at an end.

28
29 **Q. Even though the new treatment plant is not being built at this time, is the PWSB**
30 **seeking financing for any other projects?**

1 A. Yes. The PWSB still needs financing to continue with the water distribution system
2 improvements. The PWSB is planning a \$5,000,000 (five million) cleaning and lining
3 project for 2003, and approximately a \$1,500,000 (one million, five hundred thousand)
4 main replacement project utilizing IFR funds. The PWSB has proposed to allocate this
5 amount annually, through 2012, until the renovation of the distribution system is
6 completed. Combined with delays due to obtaining a bond rating, and stricter bonding
7 requirements, we are concerned that the Cleaning and Lining project designated for
8 FY2004 receive financing in time to take advantage of the summer construction season.

9
10 **Q. How does the PWSB expect to finance this project?**

11 A. The PWSB intends to finance this project through RI Clean Water Finance which can
12 provide bonding at 0.25% below market rates. The PWSB has expended all of the bond
13 funding previously authorized through the Pawtucket Building Authority. This funding,
14 as the Commission may recall, consisted of two ten million dollar bonds and a ten million
15 dollar BAN. However, in order to access the RI Clean Water Finance bonding the PWSB
16 must be free to pledge its revenues, which are currently pledged to the PBA bonds. As
17 such, the PWSB needs to defease the PBA bonds to free the current revenue pledge of the
18 PWSB's assets to the PBA bonds.

19
20 Furthermore, in order to obtain financing through revenue bonds by the RI Clean Water
21 Finance Agency, the PWSB is required to obtain a bond rating. The PWSB's request for
22 rates to cover the unanticipated expenses is designed to avoid deficits in the O&M budget
23 for FY 2004. The application and approval of rates to cover this expense, and avoid
24 future deficits, will help the PWSB obtain a more beneficial bond rating.

25
26 **Q. Are there costs related to the delay of the construction of the new treatment**
27 **facilities?**

28 A. Yes, there are a number of costs directly related to the delay of the treatment facility
29 construction. These costs include replacement of filter media, maintenance and capital
30 expenses to keep the existing treatment plant, wells and pump stations functioning
31 beyond 2004.

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Q. Please Explain why the filter media need replacement.

A. The filter media was replaced in all of the filters in 1999 during a filter renovation project. The media needs to be removed and replaced with regenerated GAC approximately every four (4) years. As such, the filter media needs to be replaced beginning as soon as possible in 2003.

The replacement of the GAC filter media was to be the responsibility of the new treatment facility vendor. The vendor was to take over operation and maintenance of the existing plant upon approval of the contract, which was estimated to have taken place in April, 2002. The Proposal required construction of the new facilities to be completed and operational within two years of approval of the vendor contract, which was estimated to be April, 2004. Because of the delay, the media will not be replaced by the new vendor. Therefore, one-half of the filters will need replacement in FY2003 and the rest in FY2004.

Q. What is the cost for the filter media replacement.

The cost for the replacements needed in 2003 is \$220,000, and the same again for 2004.

Q. How does the PWSB propose to pay for this project?

A. The PWSB's request is twofold. Obviously, the PWSB is requesting funds from rates for this project. However, the PWSB is asking that it be allowed to utilize IFR funds to begin the replacement of the GAC as soon as possible, and pay-back the IFR fund as the rates are collected. This request is made due to the regulatory lag involved in any rate case.

If the increase in rates is not approved until July, 2003, as allowed by Rhode Island state law, the PWSB will have a deficit for FY03. As the Commission knows, once rates are approved, it could take six to eight months until the deficit is eliminated, then it will take an additional six months to accumulate enough funds to replace the GAC for half of the filters (three). This means we will not be able to begin the replacement of GAC until

1 July, 2005, two years overdue. Waiting this length of time could seriously affect the
2 treated water quality, in particular the levels of trihalomethanes (THM's). If the
3 Maximum Contaminate Level for THM's is exceeded, the EPA is likely to apply fines.

4
5 **Q. Are you seeking funds for any other projects at the old treatment plant?**

6 Yes. Since the construction of the new treatment facilities has been delayed, the treatment
7 plant, wells, and pumping stations need some additional repairs/ replacements to continue
8 operation through 2005 to 2006. The list of expenses is attached to my testimony.
9 \$638,000 will be required for the replacement of equipment through IFR. O&M capital
10 expense will require an additional \$149,000, and O&M expense will require \$988,500,
11 including the replacement of the GAC. This work needs to commence as soon as
12 possible to insure the reliability of the supply, treatment and pumping processes.

13
14 **Q. Can these projects, other than the GAC, wait until the rates are collected?**

15 A. As with the GAC, we are requesting to utilize IFR funds to immediately begin the
16 more critical projects, for a total of \$1,000,000 (including GAC), with the balance of
17 \$775,700 for projects to be done as more funds are collected. This includes capital
18 projects for the wells, treatment plant, and pump stations. It also includes O&M capital
19 expenses for required laboratory equipment and treatment plant equipment repairs. (See
20 attached list.) It is necessary to undertake these projects as soon as possible to increase
21 the reliability of the water system and/or to meet DOH requirements.

22
23 **Q. How will utilizing the IFR Fund affect the water main replacement schedule?**

24 A. The Pawtucket Building Authority, after their recent audit, determined that they had
25 \$900,000 available for water main projects. The PWSB Engineering department is
26 planning to bid a main replacement project in March, 2003, for this amount. As the
27 additional requested funds are collected for the repair projects, they will be placed in the
28 restricted IFR account for future main projects.

29
30 **Q. What are the other unanticipated expenses for which the additional rates are**
31 **requested?**

1 The Town of Cumberland increased taxes on the water system property and tangibles by
2 \$227,695 for 2002-2003. The PWSB has challenged the increase, but we are paying the
3 additional amount in order to be able to take it to Superior Court, if necessary.

4
5 The insurance costs for PWSB property and liability was renewed in July, 2002, for
6 \$121,615. The rate year amount in Docket #3378 was \$69,328. The increase of \$52,287
7 was due to the difficulty in obtaining insurance on our facilities after the 9/11 incident.

8
9 The medical insurance costs of Blue Cross/Blue Shield increased to \$606,117 and Dental
10 increased to \$43,879, for an increase of \$128,351 over the Docket #3378 rate year
11 amount. I understand that BC/BS is expecting a 20% to 25% increase for 2003 (see
12 attached memo from City of Pawtucket Personnel Director). This insurance is provided
13 by contract for the Teamsters union and the AFSCME union.

14
15 **Q. What are the costs associated with the contracted labor costs?**

16 A. There are increased salary costs in the FY2003 contracts and the FY2004 contracts,
17 and the related increases to payroll taxes. Schedules 1.0 and 1.3 of Mr. Woodcock's
18 testimony.

19
20 **Q. Are there any additional expenses that are being requested in the rate filing?**

21 A. Yes. With the increase in distribution system construction work the Transmission and
22 Distribution department created a valve crew drawing from the existing T&D staff. Due
23 to the heavy demands from the construction schedule, we had a difficult time keeping up
24 with the scheduled system maintenance work, resulting in increased overtime and
25 vacation restrictions. We had also determined to start a leak detection program, but have
26 not had the material or labor resources. Our recorded losses are low, but the numbers are
27 inconsistent. The master meters need calibration – an expensive process since we cannot
28 shutdown to obtain a zero indicator. We also have difficulty finding breaks in the
29 system. We believe that a leak detection project would lower our expenses by reducing
30 loss in the system that is not presently recorded. This past year, we credited \$22,000 to
31 Cumberland due to a leak in the high pressure system. I am recommending \$20,000 for

1 leak detection equipment, and a position of Leak Detection Crew Leader. This person
2 would co-ordinate all leak survey work and related distribution system information,
3 perform leak detection, supervise the flushing program, and have the flexibility to
4 supervise and work with the other crews on system maintenance as necessary. The Crew
5 Leader position at the PWSB is a working supervisor in the labor union, and as such can
6 perform any and all tasks required within the T&D department. This position would cost
7 approximately \$55,000 with benefits (based on family health benefit), and is included in
8 the T&D funding tables (see Schedule 1.0, Chris Woodcock).

9
10 We have had difficulties in filling the second position of Assistant Maintenance
11 Mechanic. Meanwhile, the Water Treatment System Operators have gained a
12 reclassification through the union that includes some of the work performed by the
13 Assistant Maintenance Mechanic. We have therefore determined to eliminate the
14 position. We have also eliminated the clerical positions in Customer Service/Meter
15 Department. Three clerks were replaced with two Customer Service Agents at higher
16 levels of responsibility.

17
18 We have therefore eliminated a total of two positions and are requesting the addition of
19 the Crew Leader position for T&D.

20
21 The PWSB would like to put more effort into a safety program. The only formal
22 programs are those required by the emergency plans for the treatment facility. I would
23 like to add \$10,000 to the Outside Professional Services to hire a consultant to help set up
24 a safety program for the organization.

25
26 The costs for Outside Professional Services have also increased. In order to manage
27 delinquency accounts, legal assistance was utilized. Additional resources were required
28 to challenge the Cumberland tax increase. A table of costs for the first half of FY2003 is
29 attached to my testimony.

1 Some O&M costs have been increased from the test year (FY02) to correspond to those
2 allowed in Docket #3378 for the rate year Calendar Year 2002. Most of the O&M
3 increases from that docket are not in the Fiscal Year 2002 Expenses because the change
4 in rates did not become effective until April, 2002.

5
6 **Q. As a number of the rate increases seem to be one time expenses, what does the**
7 **PWSB propose to be done with the rates collected once these expenses are paid?**

8 A. The expenses for the Central Falls Franchise Fee, the treatment plant and pumping
9 facility repairs and capital expense, and possibly a portion of the Cumberland tax (if
10 PWSB challenge is successful) will not need to continue in the rate base. However, our
11 financial consultant, Maureen Gurghigian, recommends that the restricted account for
12 payment of debt service should be increased for the defeasance of the PBA bonds. I am
13 suggesting that once the rates are collected for the above costs that, with the permission
14 of the PUC, any excess funds collected are deposited in the restricted debt service
15 account for payment of bond debt.

16
17 **Q. Have there been any developments regarding the unification of the Pawtucket**
18 **and Central Falls distribution systems?**

19 Yes. I had been investigating the possibility of obtaining federal funds to assist in
20 purchasing the Central Falls distribution system. On January 27, 2002, Senator Lincoln
21 Chafee held a news conference at the PWSB water treatment plant regarding this funding.
22 It was announced that \$540,000.00 will likely be available to the PWSB to apply toward
23 purchasing the Central Falls system. This is a matching grant where the PWSB has to put
24 up a 45% match. As I understand it, this money is not yet available and is subject to final
25 passage and approval of the federal budget. Yet, it appears fairly certain that this money
26 will be available.

27
28 **Q. Do you have any suggestions as to how this funding could be used to facilitate a**
29 **purchase of the Central Falls system?**

30 Yes. If a suitable agreement could be reached, the PWSB could apply these funds toward
31 a purchase price. In addition, the PWSB would support a request in this filing that it

1 continue to collect rates currently allowed to pay off the past due franchise fees after
2 those fees are paid. As set forth previously in my testimony, the PWSB is currently
3 authorized to collect \$357,371 annually to pay Central Falls for the year 2000 and 2001
4 franchise fees. The total amount owed to Central Falls for these two years is \$623,021.00.
5 Once this amount is paid, the PWSB does not owe Central Falls any more money for
6 franchise fees.

7
8 At this time the PWSB has paid \$390,409.94 toward this debt, and owes an additional
9 \$232,611.98. If a suitable agreement can be reached, the PWSB could continue to collect
10 the amount already allowed in rates after the franchise fee debt is paid. These funds could
11 be paid over to Central Falls for its distribution system. However, all of this is contingent
12 on reaching an agreeable purchase price.

13
14 **Q. Have there been any further discussions or negotiations regarding the unification**
15 **of the two systems?**

16 A. In the past, the PWSB had attempted on numerous occasions to negotiate a unification
17 of the systems. Recently, the respective attorneys Mr. Keough and Mr. Oliverio, have
18 attempted to schedule further discussions.

19
20 As the Commission knows, most of the previous negotiations have centered on Central
21 Falls request for compensation. The PWSB is not averse to negotiating a purchase price,
22 but we feel as though any price must take into consideration the significant expenditures
23 necessary to renovate the majority of the Central Falls' distribution system. It is estimated
24 that approximately \$6,000,000 is required to renovate the distribution system in Central
25 Falls in year 2001 dollars. The PWSB is willing to take control of the Central Falls
26 distribution system and perform the necessary renovations as it would be beneficial to all
27 parties to do so.

28
29 **Q. Has the PWSB made any offers to purchase the Central Falls system?**

30 Yes, as set forth in my testimony in Docket 3378, the PWSB offered to purchase the
31 Central Falls distribution system for \$851,500.00 in a letter dated July 5, 2001.

1 The offer is based on a 1996 appraisal report of Central Falls distribution system
2 performed by Camp, Dresser & McKee, Inc. (CDM). The report presented several
3 appraisals based on different valuation methods. However, the CDM report indicated that
4 “In Rhode Island, the valuation method in the case of a privately owned, regulated utility,
5 would likely be original cost net of depreciation and net of contributions in aid of
6 construction (CIAC). This is the utilities “rate base” or “adjusted original cost” used by
7 regulators when setting rates for the water system...” CDM’s analysis on this issue
8 appears to be supported by past rate orders issued by the Commission. Additionally,
9 representatives of the Division of Public Utilities and Carriers, in informal meetings, have
10 echoed similar sentiments that the proper valuation method to be employed is adjusted
11 original cost. Furthermore, the PWSB believes this to be a fair valuation method as it
12 provides the most accurate representation of the system’s current worth. Payment of the
13 adjusted original cost would allow Central Falls to recoup its original investment, plus
14 funds expended for improvements, while taking into consideration the system’s
15 deterioration since 1930’s.

16 According to the CDM report, the “adjusted original cost” of the Central Falls
17 distribution system in 1996 was \$949,938.00. The PWSB had commissioned CDM to
18 update this figure before the submission of Docket 3378. The “adjusted original cost” or
19 “net book value” at that time was \$851,500.00. This was the amount offered by the
20 PWSB to Central Falls.

21
22 **Q. To your knowledge, has Central Falls used the same valuation method in your**
23 **discussions on unification?**

24 A. I do not believe so. In our discussions, it seems that Central Falls valuation is based on
25 a 1997 Potable Water Infrastructure Study prepared by Siegmund & Associates. In
26 reviewing this report, it appears to be an Infrastructure Replacement Report (IFR) rather
27 than an appraisal. The report appears to have been prepared to outline a program for
28 replacing the components of Central Falls water system from 1998 up to and including
29 2042.

1 This report sets the depreciation value of Central Falls water system at \$2,950,424.00.
2 This appears to be the approximate purchase price Central Falls has set for its system.
3 Furthermore, Central Falls indicated in a letter to the Commission dated April 26, 2001
4 that the appropriate valuation method for the distribution system is not governed by
5 methods that apply to regulated utilities, as Central Falls is not regulated.

6
7 **Q. If the parties cannot agree on terms to unify the two distribution systems, does**
8 **the PWSB have a contingency plan?**

9 A. Yes. However, first let me say that the PWSB would prefer to unify the systems. The
10 PWSB is embarking on an extremely important project in renovating its entire system of
11 distribution lines. In essence this is a once in a lifetime undertaking. As the two
12 distribution systems are unified, they should be renovated at the same time.

13
14 Furthermore, as the Commission knows, new EPA guidelines are scheduled to take effect
15 in 2004 and 2010. The construction of the new treatment plant was intended to address
16 the first set of EPA guidelines that take effect in 2004. However, in 2010, a second set of
17 guidelines will take effect. As such, a second treatment plant module may be constructed
18 to address further water treatment issues and meet the 2010 EPA guidelines. If all of the
19 transmission and distribution lines in the PWSB system, including those located in
20 Central Falls, are cleaned, lined and/or replaced as needed by 2010, the PWSB could then
21 utilize the more cost effective chloramines treatment method to reduce trihalomethanes
22 (THM's) in the distribution water.

23
24 However, if the systems remain connected, and the pipes are not cleaned, lined and/or
25 replaced, then an additional treatment module may need to utilize the more costly method
26 of ozone followed by granular activated carbon in order to meet the new EPA drinking
27 water requirements. The ozone is a strong oxidizer that breaks down the natural organics
28 in the water that react with chlorine to form THM's. The GAC removes the byproducts
29 of the ozone and organic contaminates. The estimated present capital and operation costs
30 of this second module using the more costly treatment method is approximately twenty
31 million dollars (\$20,000,000.00).

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That being said, the PWSB cannot force Central Falls to unify the systems, nor can it force Central Falls to renovate its own system. If the systems are not unified, they will have to be separated. I have studied the systems, and this can be done. It is not preferable, as many dead ends will be created. However, it can be accomplished. Central Falls would then operate its own water system and purchase water as a wholesaler from the PWSB or another supplier. However, Central Falls would be responsible for the total operation and maintenance of its system, from billing to water quality control.

Q. Have you prepared a schedule showing what the proposed rates would be?

A. See attached rate schedules prepared by Chris Woodcock.

Q. Does this conclude your testimony?

A. Yes.

Estimate

Additional Costs for Maintaining the Treatment and Pumping Facilities through 2005

IFR Capital	Costs	TOTALS	ASAP (IFR)
<u>Well system</u>			
Replace buildings for wells 4,5,6,7,8,9 (DOH)	\$ 75,000		\$ 75,000
Rebuild well #5	12,000		12,000
Cap well #1 (DOH)	8,000		8,000
Install 16" by-pass to filter influent	18,000		18,000
SUM	\$ 113,000		
<u>Pumping</u>			
Replace 2 pump impellers, high lift pumps, PS4	\$ 26,000		\$ 26,000
Repair roof, Spring St. station	15,000		15,000
Renovate 12 MGD pump, Spring St.	100,000		100,000
SUM	\$ 141,000		
<u>Treatment plant</u>			
Replace 480 V transformer	\$ 17,000		\$ 17,000
Replace 6 wash water valves	21,000		21,000
Replace motorized tank back wash valve	28,000		28,000
Replace wash water tank level transmitter	4,000		4,000
Replace flocculator chains & sprockets	14,000		14,000
Replace 9 chemical feed pumps	14,000		14,000
Replace 2 - 5000 gallon caustic storage tanks	35,000		35,000
Install fuel storage monitoring system (DEM)	15,000		15,000
Replace 3 - 36" motor operated aerator valves	90,000		90,000
Install influent channel flow meter - treatment optimization	23,000		23,000
Raw water streaming flow current montior optimization of coagulant (EPA)	12,000		12,000
Concrete work to filters, aerators, walls	75,000		75,000
Replacement/repairs to deteriorated internal piping	30,000		30,000
Install new intake screens	6,000		6,000
SUM	\$ 384,000		
IFR TOTAL		\$ 638,000	
<u>O&M Capital</u>			
<u>Laboratory Equipment required to meet state certification & aid in regulatory compliance</u>			
Replace lab balances (cert.)	\$ 5,000		\$ 5,000
Replace lab washer	1,200		1,200
Replance autoclave (not repairable)	75,000		75,000
TOC analyzer	40,000		
Sterilizing oven (not repairable)	5,000		5,000
DO, conductivity & TDS meters	4,000		4,000
Repalce water bath (not repairable)	2,000		2,000
Replace incubator (cert.)	7,000		7,000
Microscope for algae analysis	3,000		3,000
NIST thermometer calibration station (cert.)	7,000		7,000
TOTAL		\$ 149,200	
<u>O&M</u>			
<u>Treatment plant</u>			
Replace GAC 3 filters 2003, 3 filters 2004	\$ 426,000		\$ 213,000
Rebuild #2 wash water motor	3,500		3,500
Rebuild #2 raw water pump	6,000		6,000
Engineering inspection of all components for performance/longevity	20,000		20,000
Inspect & clean clearwell 2005	60,000		
Remove sludge from drying basin 2005	200,000		
Dredge sediment basin 2005	80,000		
<u>Pumping</u>			
Repairs to brick walls at Spring St. PS	90,000		
<u>Storage</u>			
Inspection of 2 tanks (DEM)	8,000		8,000
Repaint 3 MGD water tank	95,000		
TOTAL		\$ 988,500	
GRAND TOTAL		\$ 1,775,700	\$ 997,700